

Rhodora

JOURNAL OF

THE NEW ENGLAND BOTANICAL CLUB

Vol. 44.

January, 1942.

No. 517.

A NEW SPECIES AND A NEW VARIETY OF SOLIDAGO FROM KENTUCKY

E. LUCY BRAUN

IN the spring of 1940, in one of the many sandstone "rock-houses" of the Red River country of Menifee County, Kentucky, in the Cumberland National Forest, the writer found plants of what appeared to be an undescribed species of goldenrod. Even at this season (early May) when the vegetative stems were about 6-10 inches tall, the distinctness of the species was evident. Dry stems of the previous autumn still retained their shriveled leaves, which when moistened could be pressed into shape, and ripe fruits still stood loosely in the dry involucres, for in the protection of a rockhouse no storms could reach the plants to batter down the delicate stems.

A revisit to the area in September was planned, but other things prevented. Then, on September 16, 1941, sixteen months after the first collection, we again ascended the "hollow," steep and rocky toward the upper end where footing was in places precarious and hand-holds lacking or uncomfortable because of the plentiful Hercules' Club (*Aralia spinosa*). In the dry sand under the sheltering roof of the rockhouse, a mass of *Solidago* in full bloom rewarded our efforts. The next day, more plants were found on the other side of the Red River, in Powell County.

The plant evidently belongs to the *Flexicaules* group of *Solidago*. Its decumbent habit, white-pilose stems and lower leaf surfaces, very delicate leaf-texture (leaves so thin that coarse print is readable through the leaves) and exceedingly soft feel

are features which at once are apparent. Comparison with other species of the group emphasizes the specific distinctness of the plant of this unusual habitat.

SOLIDAGO albopilosa, sp. nov., caulibus gracilibus, debilibus 2–5.5 dm. altis striatis dense albopilosis; foliis caulinis inferioribus medianisque late ovatis vel late ovalibus 3–6 cm. longis 3–5 cm. latis, acutis, in basem truncatum abrupte contractis, serratis tenuissimis, supra pubescentibus infra pilosis, pilis albis ad venas principales 2 mm. longis; inflorescentiae foliis similibus minoribus serratis; petiolis laminae longitudinis secundam vel tertiam partem aequantibus; involucris 4 mm. altis; bracteis obtusis, 1–3-costatis; radiis 4 vel 5; achaeniis pubescentibus.

Plants stoloniferous, without basal rosettes; short vegetative stems, however, are numerous. Stems slender, weak, often decumbent and sprawling, or even pendent, 2 to 5½ dm. long, slightly zigzag, striate, densely white-pilose. Lower and median stem-leaves broadly ovate or broadly oval, blades 3–6 (–7) cm. long, 3–5 (–6) cm. wide, acute at apex, abruptly contracted at base, base varying from slightly cordate to truncate with scarcely winged petiole to rounded with a narrow cuneate extension along petiole, serrate; leaves of the inflorescence similar but smaller, and narrower, serrate. Petioles of the cordate and truncate leaves ½ to ⅓ the length of blades, those of the oval leaves generally shorter. Leaves very thin and delicate, and exceedingly soft, pubescent above, pilose beneath with white hairs, those on the principal veins 2 mm. long. Inflorescence axillary and terminal, but thyse, if present, very poorly developed, clusters few-flowered, the lowest occasionally 2–3 cm. long, racemosely branched and leafy-bracted; axis of inflorescence and pedicels densely white pilose. Flowers fragrant. Involucre 4 mm. high, bracts obtuse, pubescent toward tip, 1- to 3- (or occasionally 5-) ribbed, only the central rib distinct. Rays 4 or 5, rarely 3. Achenes 1.8–2.2 mm. long, pubescent, pappus capillary, 3 mm. long.—KENTUCKY: in dry or moist sandstone rockhouses of the basal Pottsville formation, head of ravine tributary to Red River between Gladly Creek and Wolfpen Creek, Menifee County, May 4, 1940, *Braun*, Ky. no. 2915; same locality, Sept. 16, 1941, *Braun*, Ky. no. 4278 (TYPE in Gray Herbarium and isotypes deposited in a number of herbaria); rockhouses on Gray's Branch (also tributary to Red River), Powell County, Sept. 17, 1941, *Braun*, Ky. no. 4295; same locality, Oct. 12, 1941, *Braun*, Ky. no. 4333.

Solidago albopilosa was found growing in company with *Heuchera parviflora* var. *Rugelii* and *Silene rotundifolia*. Vegetative stems of the *Solidago* resemble the *Silene*. The goldenrod is

strictly limited to sites beneath projecting cliffs and the roofs of the rockhouses. Even though so abundant that it carpets the ground in the rockhouses, it stops abruptly at a line coinciding with the cliff margin far above. In one rockhouse on Gray's Branch, it extends under the overhanging cliff into almost dark crevices, there growing with filmy fern, *Trichomanes Boschianum*. The habitat is similar to, but drier than that in which *Eupatorium deltoides** was found. As yet the two species have not been found in the same rockhouse. The nearest station for the *Eupatorium* is about 5 miles from those of the *Solidago*.

Just beyond the outer line of growth, in both stations, one plant was found which had taller, less weak although slender stems, larger and proportionately narrower leaves less abruptly contracted at the base, less pilose stems and leaves, and 3 to 4-rayed heads. One (no. 4279, Menifee Co.) has a fairly well developed terminal thyrse as well as axillary clusters, suggesting the inflorescence of *S. latifolia*; in the other, the inflorescence is almost entirely of axillary clusters. In leaf-shape, but not in stature, in pubescence nor inflorescence, these plants of marginal situation slightly resemble the form of *S. latifolia* which is common in mesophytic woods of the Red River. (*Solidago latifolia* in this area has the leaves broadest near the middle, and tapering gradually, not abruptly, to a very short petiole.) The strongest resemblance is, however, with *Solidago albopilosa*. The fragrance of the flowers of *S. albopilosa* attracts many bumble bees. As *Solidago* is insect-pollinated occasional transfer of pollen from one to another species in this closely related series might result in hybridization. The two intermediate plants may be hybrids.

SOLIDAGO RIGIDA L., var. **glabrata**, var. nov., a forma typica differt caulibus foliisque glabris.

Differs from the typical form of the species in its glabrous stem and leaves.—KENTUCKY: in dry soil with prairie plants, near Cave City, Barren County, Sept. 11, 1940, *Braun*, Ky. no. 3629. TYPE in Gray Herbarium, isotype in writer's herbarium.

In appearance and stature this plant is like typical *S. rigida*. Its glabrous stems, and smooth, glabrous, almost shiny leaves will readily distinguish it from the species. Occasional scattered hairs on some of the leaves are longer, more slender and less stiff than those of the typical form, and without the coarse

* RHODORA 42: 50-51. 1940.

elevated base. The leaf-margin is hispid-ciliate, although less prominently so than in the species. Short hispid hairs, widely spaced, are arranged in lines along the branches of the inflorescence; pedicels pubescent.

THE UNIVERSITY OF CINCINNATI,
Cincinnati, Ohio.

GREAT BASIN PLANTS V.—AQUATICS

BASSETT MAGUIRE AND G. HORTIN JENSEN

THE following records are presented in continuation of discussion of rare or interesting plants of the Great Basin. Grateful acknowledgment is made to the Utah Wildlife Research Unit of the Federal Fish and Wildlife Service for certain specimens made available to this paper.

POTAMOGETON AMERICANUS C. & S., in 12 in. of water, Stewart Lake, Uinta Co., Utah, July 10, 1938, *G. H. Jensen & L. Dargan*, no. 153.

Until this present collection came to light, no Utah material had been seen by the writers, although the species had been included by Tidestrom in the Flora of Utah & Nevada. Failure to find this plant after a number of years search had almost convinced us that it was not likely to have been found in the state, and that its inclusion in the Utah range might have been due to misinterpretation of the amphibious form of *P. gramineus* L. This latter species abounds in the state, and, in the absence of well-formed submerged leaves, strongly simulates *P. americanus*.

*POTAMOGETON CRISPUS L., Ogden Bay Refuge, Weber Co., Utah, Aug. 2, 1937, *C. S. Williams*, no. 1241.

This introduced European species, known commonly from Minnesota eastward and sparingly from the Pacific Coast region, is now apparently collected only from the above station in the entire Rocky Mountain and Great Basin areas.

*POTAMOGETON FILIFORMIS Pers. (*P. interior* Rydb.), along dike, East Lake, Locomotive Springs, Box Elder Co., Utah, Sept. 15, 1936, *D. Hobson & Geo. Piranian*, no. 14850; Lyman Lake, Black's Fork River, Wasatch National Forest, Summit Co., Utah, July 27, 1939, *D. Hobson*, no. 51.

* The asterisk designates plants which are thought previously to have been unreported from our region.